CLIENT/SUBJECT GKM   W.O. NO. _____

TASK DESCRIPTION Water Entry 12" Pipe   TASK NO. _____

PREPARED BY DAG   DEPT _____   DATE 9/28/15

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY

DEPT _____ DATE _____

Given: Flow 1000 gpm

Flow 600 gpm

Pipe ID 12" DR-11 10.293"

Find: Flow Velocity

$$Area \left(\frac{10.293^{inches}}{2 \times \frac{12 in}{ft}}\right)^2 \times 3.14 = 0.5776 \, ft^2$$

Flow in cfs

$$\frac{1000 \, gal}{min} \times \frac{1 \, min}{60 \, sec} \times \frac{1 \, ft^3}{7.48 \, gal} = 2.23 \, cfs$$

$$\frac{600 \, gal}{min} \times \frac{1 \, min}{60 \, sec} \times \frac{1 \, ft^3}{7.48 \, gal} = 1.37 \, cfs$$

Entrance Velocity, full Pipe

$$1000 \, gpm \quad 2.23 \, \frac{ft^3}{sec} \Big/ 0.578 \, ft^2 = \underline{3.86 \, ft/sec} \longrightarrow$$

$$600 \, gpm \quad 1.37 \, \frac{ft^3}{se} \Big/ 0.578 \, ft^2 = \underline{2.31 \, ft/sec} \longrightarrow$$

These are reasonable entrance velocities.